This is a sample pathway for students who transfer to San Francisco State University in the current Bulletin year with an AS-T in Physics. Twenty-four units in the major (MATH 226, MATH 227, MATH 228, PHYS 220, PHYS 222, PHYS 230, PHYS 232, PHYS 240, and PHYS 242) and all lower-division GE requirements have been satisfied. Additional units in the major may have been satisfied. Check with a major advisor about the most appropriate course sequence. **Degree completion guaranteed in 60 units**; see the Associate Degree for Transfer (ADT) section for more information(http://bulletin.sfsu.edu/undergraduate-admissions/transfer-students/).

**Course** | **Title** | **Units**
--- | --- | ---
**First Semester**
ASTR 301 | Observational Astronomy Laboratory | 2
MATH 245 or MATH 376 | Elementary Differential Equations and Linear Algebra | 3
PHYS 320 | Modern Physics | 3
GE Area UD–B: Upper Division Physical and/or Life Sciences | 3
University Elective | 3 | 14

**Second Semester**
ASTR 300 | Stars, Planets, and the Milky Way | 3
ASTR 340GW | The Big Bang - GWAR | 3
CSC 309 | Computer Programming | 3
PHYS 360 | Electricity and Magnetism I | 3
PHYS 370 | Thermodynamics and Statistical Mechanics | 3 | 15

**Third Semester**
ASTR 400 | Stellar Astrophysics | 3
HIST 470 or HIST 471 | The U.S. Constitution to 1896 or The U.S. Constitution Since 1896 | 3
PHYS 430 | Quantum Mechanics | 3
PHYS 460 | Electricity and Magnetism II | 3
GE Area UD–B: Upper Division Physical and/or Life Sciences or University Elective if UD-B is Already Satisfied | 3 | 15

**Fourth Semester**
ASTR 470 | Observational Techniques in Astronomy | 3
ASTR 498 & PHYS 695 or ASTR 697 | Astronomy Research Literature or Senior Project | 3
RRS 600/HIST 466 or AIS 460 | History of People of Color in the U.S. or Power and Politics in American Indian History | 3 | 3
Bachelor of Science in Physics: Concentration in Astrophysics – PHYS

To Do at SF State:

Enough total units to reach 120 minimum for graduation; 30 units minimum at the upper-division level; to include the following:

**To Do at SF State:**

**University-Wide Requirements: 9-15 Units**

- American Institutions (0-6 units) - US History, US Government, California State and Local Government. See next bullet if not completed before transfer.
- Upper division GE (9 units): Courses approved for both UD GE and American Institutions may double-count.
- Students entering the major with the AS-T in Physics are not required to fulfill SF State Studies or Complementary Studies requirements.

**Physics B.S. (Astrophysics) Major: 44-47 units**

- MATH 226, MATH 227, MATH 228, PHYS 220, PHYS 222, PHYS 230, PHYS 232, PHYS 240, and PHYS 242 met in transfer.
  - Prerequisites (3 units if MATH 245 equivalent not completed before transfer; see note 3 above)
  - Upper-division Requirements (38 units)
  - Upper-division Electives (6 units): Units in physics or astronomy selected with the consent of advisor. Three of the six elective units must be in courses numbered 400-499. No more than one unit of a 600-level ASTR course may count towards the electives.

**University Electives: Seven or More Units**

Depends on course choices made at the community college, how transferred units are applied to the requirements above, and course choices at SF State. Some courses may meet more than one requirement, e.g., both in UD GE and the major.